

WHAT IS CLAIMED IS:

1. A system for reproducing a digital TV signal, comprising a computer system and a display system, the computer system comprising:

a signal dividing means receiving the digital TV signal, and dividing the digital TV signal into digital video signals and digital audio signals after a predetermined signal processing,

a video decoding means decoding the digital video signals outputted from the signal dividing means into analog video signals, and outputting low frequency analog video signals by colors,

an audio decoding means decoding the digital audio signals outputted from the signal dividing means into analog audio signals with a plurality of channels corresponding to predetermined frequencies,

a plurality of frequency-modulators frequency-modulating the low frequency analog video signals and the analog audio signals, in response to intermediate frequencies, respectively, and

a wireless transmitter wirelessly transmitting the signals modulated by the frequency-modulators; and

the display system having:

a plurality of first wireless receivers wirelessly receiving the analog audio signals transmitted from the wireless transmitter, via the channels,

a plurality of first frequency demodulators respectively connected to the first wireless receivers and frequency-demodulating the analog audio signals,

a plurality of second wireless receivers wirelessly receiving the analog video signals transmitted from the wireless transmitter,

a plurality of second frequency demodulators respectively connected to the second

22 wireless receivers and frequency-demodulating the analog video signals by the colors, and
23 display and audio apparatuses outputting the video and audio signals demodulated
24 by the first and second frequency demodulators, respectively.

1 2. The system according to claim 1, wherein the signal dividing means is comprised of
2 a digital TV tuner card including a tuner receiving the digital TV signal, a VSB (Vestigial Side
3 Band) demodulating part demodulating a high frequency signal received by the tuner into a VSB
4 analog signal, a Viterbi decoder transforming the VSB analog signal into a digital signal, and a
5 demultiplexer dividing the digital signal transformed by the Viterbi decoder into the video signal and
6 the audio signal.

1 3. The system according to claim 2, wherein the video decoding means includes a video
2 decoder decoding the video signal outputted from the digital TV tuner card into R/G/B signals, and
3 a video signal transforming part transforming the R/G/B signals into Y/Pb/Pr low frequency analog
4 video signals.

1 4. The system according to claim 2, wherein the audio decoding means includes an
2 audio decoder decoding the audio signal outputted from the digital TV tuner card into six audio
3 signals corresponding to 5.1 channels in an AC-3 manner.

1 5. The system according to claim 4, wherein the audio apparatus is comprised of six
2 speakers applicable to the 5.1 channels.

1 6. The system according to claim 1, wherein the wireless transmitter and the first and
2 second wireless receivers are comprised of at least one antenna, respectively.

1 7. A system for restoring a digital video signal, comprising a computer system and a
2 display system, the computer system comprising:

3 a video signal outputting means outputting the digital video signal,

4 a video decoding means decoding the digital video signals outputted from the video signal
5 outputting means into analog video signals, and outputting low frequency analog video signals by
6 colors,

7 a plurality of frequency-modulators frequency-modulating the low frequency analog video
8 signals into high frequency signals, in response to intermediate frequencies, respectively, and

9 a wireless transmitter wirelessly transmitting the signals modulated by the frequency-
10 modulators; and

11 the display system comprising:

12 a plurality of wireless receivers wirelessly receiving the analog video signals
13 transmitted from the wireless transmitter,

14 a plurality of frequency demodulators respectively connected to the wireless receivers
15 and frequency-demodulating the analog video signals by colors, and

16 a display apparatus outputting the video signals demodulated by the frequency
17 demodulators.

1 8. The system according to claim 7, wherein the video signal outputting means is
2 comprised of a digital TV tuner card including a tuner receiving the digital TV signal, a VSB

(Vestigial Side Band) demodulating part demodulating a high frequency signal received by the tuner into a VSB analog signal, a viterbi decoder transforming the VSB analog signal into a digital signal, and a demultiplexer dividing the digital signal transformed by the viterbi decoder into the video signal and the audio signal.

9. The system according to claim 8, wherein the video decoding means includes a video decoder decoding the video signal outputted from the digital TV tuner card into R/G/B signals, and a video signal transforming part transforming the R/G/B signals into Y/Pb/Pr low frequency analog video signals.

10. A system for restoring a digital audio signal, comprising a computer system and an audio system, the computer system comprising:

an audio signal outputting means outputting the digital audio signal,

an audio decoding means decoding the digital audio signals outputted from the audio signal outputting means into analog audio signals after dividing the digital audio signals corresponding to a plurality of channels having predetermined frequencies,

a plurality of frequency-modulators frequency-modulating the low frequency analog audio signals into high frequency signals, in response to intermediate frequencies, respectively, and

a wireless transmitter wirelessly transmitting the signals modulated by the frequency-modulators; and

the audio system comprising:

a plurality of wireless receivers wirelessly receiving the analog audio signals transmitted from the wireless transmitter,

14 a plurality of frequency demodulators respectively connected to the wireless receivers
15 and frequency-demodulating the analog audio signals corresponding to the channels, and
16 an audio apparatus outputting the audio signals demodulated by the frequency
17 demodulators.

1 11. The system according to claim 10, wherein the audio signal outputting means is
2 comprised of a digital TV tuner card including a tuner receiving the digital TV signal, a VSB
3 (Vestigial Side Band) demodulating part demodulating a high frequency signal received by the tuner
4 into a VSB analog signal, a viterbi decoder transforming the VSB analog signal into a digital signal,
5 and a demultiplexer dividing the digital signal transformed by the viterbi decoder into the video
6 signal and the audio signal.

1 12. The system according to claim 11, wherein the audio decoding means includes an
2 audio decoder decoding the audio signal outputted from the digital TV tuner card into six audio
3 signals corresponding to 5.1 channels in an AC-3 manner.

1 13. The system according to claim 12, wherein the audio apparatus is comprised of six
2 speakers applicable to the 5.1 channels.

1 14. A method for restoring a digital TV signal, comprising the steps of:
2 dividing the digital TV signal into a digital video signal and an digital audio signal after a
3 predetermined signal processing;
4 decoding the digital video signal into low frequency analog video signal, by colors;

5 decoding the digital audio signal into analog audio signal with a plurality of channels
6 corresponding to predetermined frequencies;

7 modulating the low frequency analog video and audio signals into high frequency signals
8 having predetermined intermediate frequencies, respectively;

9 transmitting at least one of the frequency-modulated video and audio signals by wireless;

10 receiving at least one of the transmitted video and audio signals and demodulating the
11 received signals; and

12 outputting at least one of the demodulated video and audio signals to display and audio
13 apparatuses.

14 15. The method according to claim 14, wherein the step of decoding the digital audio
15 signal comprises the step of transforming the digital audio signal into six signals corresponding to
16 5.1 channels.

17 16. The method according to claim 14, wherein the audio apparatus is comprised of six
18 speakers applicable to 5.1 channels.

19 17. A system for reproducing a digital TV signal, comprising:

20 a computer system comprising:

21 a digital TV tuner card for receiving the digital TV signal and separating an audio
22 signal and a video signal in MPEG-2 format from the digital TV signal for output;

23 an AC-3 audio decoder for receiving the separated audio signal and outputting 5.1
24 channel audio;

7 a video decoder for receiving the separated MPEG-2 video signal and outputting an
8 R/G/B video signal;

9 a video signal converter for receiving the R/G/B video signal and outputting a
10 Y/Pb/Pr video signal;

11 a wireless module separately modulating each video component and each audio
12 component of said Y/Pb/Pr video signal and said 5.1 channel audio using different center
13 frequencies, combining the modulated signals and wirelessly transmitting the combined
14 signal from a first antenna; and

15 a display system comprising:

16 first through sixth antennas and corresponding first through sixth demodulators for
17 receiving the combined signal and outputting recovered 5.1 channel audio to a speaker
18 system; and

19 a seventh antenna and seventh through ninth demodulators for receiving the
20 combined signal and outputting recovered Y/Pb/Pr video signals to a digital TV for display.